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Coral Reef News



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The Coral Reef Conservation Program (CRCP) is a partnership between the NOAA Line Offices working on coral reef issues, including the National Ocean Service (NOS), the National Marine Fisheries Service (NMFS), the Office of Oceanic and Atmospheric Research (OAR) and the National Environmental Satellites, Data and Information Service (NESDIS). From mapping and monitoring to managing reef resources and removing harmful debris, the CRCP addresses the priorities laid out in both the [National Action Plan to Conserve Coral Reefs](#) and the [National Coral Reef Action Strategy](#).

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Special Feature

External Panel Conducts Review of NOAA Coral Reef Conservation Program. The NOAA [Coral Reef Conservation Program](#) (CRCP) convened a seven-member panel of distinguished experts to conduct an external review of the program September 24-26 in Washington, D.C. The panel meeting included "self assessment" presentations from the CRCP and input from a variety of CRCP customers and stakeholders. The panel is charged with assessing CRCP effectiveness over a five-year period (2002-2006). The panel is specifically addressing the following questions: (1) given the CRCP mandates, has the CRCP directed resources to ap-

propriate areas to optimize conservation of coral reef ecosystems, (2) how effective has the CRCP been in advancing coral reef conservation, and (3) how can the CRCP improve its impact in the future. The CRCP provided the panel with a comprehensive "self-assessment" of activities, outputs, impacts and challenges during 2002-2006. Copies of the assessment and more information are available on the review's [Web page](#). The panel will provide its findings and recommendations in a final report by December. The CRCP will use the panel report along with other input to help guide its planning for FY09-13.



During the review, the Blue Ribbon panel spoke with CRCP stakeholders to hear their perspectives on the Program. Courtesy: NOAA Coral Reef Conservation Program

Announcements

Coral Reef News Completes Makeover. *Coral Reef News* now has a new look and feel. Based upon feedback received from both internal and external sources, the Coral Reef Conservation Program's monthly newsletter has undergone a makeover. This new format incorporates several formatting improvements while continuing to provide updates on NOAA's coral reef conservation activities. We welcome your comments as we continue to improve this product to better serve you.

New Spatial Tools Available to Assist Coastal Managers with Mapping and Analysis. Four new ArcGIS tools, initially developed for NOAA's [National Centers for Coastal Ocean Science](#) projects, have been made available to the

geographic information system (GIS) user community online through [ESRI](#). These tools were originally developed for specialized tasks, but have been enhanced for wider use. Two quality assurance/quality control tools, [Adjacent Features](#) and [Overlapping Features](#), were created for the Hawaiian Benthic Habitat Mapping project, enabling a user to quickly locate overlapping polygon and adjacent polygons sharing the same attributes. An analytical tool, the [Diversity Calculator](#), was developed to calculate species richness, Simpson's Index of Diversity and Shannon's Diversity Index values for the Caribbean Coral Reef Ecosystem Monitoring project. A [processing tool](#) was developed for the 2008 *State of Coral Reef Ecosystems* report to read in point data and create line segments with the points' attributes.

UPCOMING EVENTS

November 2007

5 – 9: [The 60th Annual Gulf and Caribbean Fisheries Institute Conference](#). Punta Cana, Dominican Republic.
14 – 18: [North American Association of Environmental Education](#). Virginia Beach, VA.

December 2007

3 – 7: [CLITOP \(CLimate Impacts on Oceanic TOP Predators\)](#). La Paz, United Mexican States.



The **11th ICRS**, with the theme of **Reefs for the Future**, will be held in Ft. Lauderdale, FL, July 7-11, 2008. The 11th ICRS is also a key-stone event within the **International Year of the Reef (IYOR) 2008**.

Updates from Headquarters

CRW Coordinator Briefs Congressional Staff on Coral Reef Resilience. The Coordinator of [Coral Reef Watch](#) (CRW) spoke and moderated a panel of experts at a briefing in the Rayburn House Office Building on September 10th. Representative Gilchrest (R-MD) has been interested adding the concept of managing for resilient reefs to H.R. 1205, the House's version of a Coral Reef Conservation Amendments Act of 2007, and requested a forum to discuss this issue. Entitled "Resilient Reefs: Helping Corals Help Themselves," the luncheon briefing was organized and hosted by the [Communication Partnership for Science and the Sea](#) (COMPASS) and included Dr. Nancy Knowlton from the [Smithsonian Institution](#), Dr. Robert Steneck

from the [University of Maine](#), Kacky Andrews from the [Coastal States Organization](#), and Dr. Eakin from NOAA. Highlighted topics included the combined influence of local and global stress on coral reefs and the importance to support reef resilience through maintaining good water quality, healthy herbivore populations, and marine protected areas. Fifty seven persons attended, including majority and minority staff from the House Natural Resources and Science and Technology Committees, numerous House and Senate members' staff, and representatives from several NGOs. Additional details and the presentations are available on the COMPASS House Oceans Caucus Luncheons [Web page](#).

Updates from the Atlantic/Caribbean Region

Aquarius Mission Studies Sponges' Role in Reef Ecosystems. The [National Marine Sanctuary Program](#) (NMSP) recently completed a mission in the [Aquarius](#) underwater habitat managed by NOAA's [National Undersea Research Center/University of North Carolina, Wilmington](#) (NURC/UNCW) off Key Largo. Researchers conducted investigations of sponges during this mission. Specifically, they looked at the net effect of sponges on the reef system with regard to net production of nitrogen by using sophisticated instruments for measurements of inhaled and exhaled water flow and isotopes of carbon and nitrogen. Live web coverage, logs, and other information about the saturation mission are posted [here](#).

Protecting Corals, Saving Ships Project Proposes International Standards and Prepares for Field Testing. To provide tools to protect coral areas from impacts by commercial and recreational vessels, NOAA's [Office of Coast Survey](#) and [Marine Protected Areas Center](#) are working on a two-fold approach via the [Protecting Corals, Saving Ships](#) project. First, to facilitate access to environmental information by mariners, the project is working through the [International Hydrographic Organization](#) (IHO), the organization responsible for formulating standards for navigational

information. A major milestone will be the meeting of the IHO's Committee on Hydrographic Requirements for Information Systems in November 2007; the project's proposed Marine Environmental Protection Product Specification will be presented at that time. This Product Specification is the initial step for the development of a standard. Second, the group is engaged in a demonstration project to develop electronic environmental data layers compatible with Electronic Navigational Charts (ENC) for the [Florida Keys National Marine Sanctuary](#). The new electronic data layers are being developed and anticipated to be field tested on vessels in early 2008.

Florida Keys National Marine Sanctuary Coral Condition Cruise. The NOAA Ship *Nancy Foster* supported the annual [Florida Keys National Marine Sanctuary](#) (FKNMS) [Coral Condition Cruise](#) September 23-30. In addition to the surveys of permanent stations, which began in 1998, transects following the [Florida Reef Resilience Program's](#) protocol were conducted and multibeam data were collected on the Tortugas Bank, along the sanctuary's Florida Straits boundary, and offshore of Conch Reef including the [Aquarius](#) underwater habitat and drop-off. Scientific leadership was provided by the [Perry Institute of Marine Science](#) (continued on page 3)

Atlantic/Caribbean continued...

and NOAA's [National Marine Sanctuary Program](#). Surveys showed that bleaching generally was moderate, with partial bleaching of *Montastraea annularis* and paling of *M. faveolata*, *Diploria*, *Colpo-phylia*, *Siderastrea*, among others. *Palythoa* was widespread and partially bleached; *Erythropodium* and *Agaricia* were bleached. Yellow Blotch and Black Band Disease (BBD) were present, among others; sampling of mucus, BBD, and potential pox was conducted by researchers from [Harbor Branch Oceanographic Institution](#) and the [University of Georgia](#).

NOAA Research Cruise to Address Sanctuary Management Issues Interrupted by Hurricane Humberto. Scientists from NOAA's [National Centers for Coastal Ocean Science](#) and the [Flower Garden Banks National Marine Sanctuary](#) scientists were aboard the NOAA ship *Nancy Foster* when Hurricane Humberto originated just west of their location in the Northwestern Gulf of Mexico. The development of the hurricane prompted the crew to evade the rising storm and return to port in Galveston on September 13. In spite of the uncooperative weather, the research team was able to complete three days of dive surveys and three nights of multi-beam sonar surveys in Sanctuary waters and surrounding areas of interest. The scientists assessed local fish and coral to address

sanctuary management issues and enhanced National Marine Sanctuaries benthic habitat maps which outline the distribution of resources. Daily updates on the September 10-12 cruise are available [online](#). For more information, visit the [project Web page](#).

Lab-grown Star Coral May Assist Reef Restoration Efforts. [National Coral Reef Institute](#) (NCRI) researchers at Nova Southeastern University Oceanographic Center, sponsored by NOAA's [National Centers for Coastal Ocean Science](#), may be able to help restore damaged coral reefs by reseeded them with coral grown in a laboratory. Spawning of the Great star coral, *Montastraea cavernosa*, was observed on the inshore reef complex of Broward County, Florida during a series of night dives from September 2-4. Both sperm and eggs were collected from spawning colonies and mixed together onboard the research vessel. Fertilization of the collected eggs was confirmed in the NCRI coral ecology lab, and the newly developing embryos were placed into larval holding tanks to mature, settle, and change into primary polyps. The embryos will eventually become juvenile colonies that will be transplanted to damaged reefs. NCRI is a Congressionally-directed core component of NOAA's [Coral Reef Conservation Program](#).



The **International Year of the Reef (IYOR) 2008** is a worldwide campaign to raise awareness about the value and importance of coral reefs and threats to their sustainability, and to motivate people to take action to protect them.

Even if you don't live near a reef, you can [help protect coral reefs](#) in the U.S.A. and around the world.

Updates from the Pacific Region

Unmanned Flights to Enhance Marine Debris Surveys. A series of successful test flights of a prototype Unmanned Aircraft System (UAS) were recently conducted in the restricted airspace maintained by the U.S. Army at Schofield Barracks range facility in Hawai'i. The Resolution UAS from [Airborne Technologies Inc.](#) that is being developed for NOAA's [Pacific Islands Fisheries Science Center](#) (PIFSC) and [Papahānaumokuākea Marine National Monument](#) was dubbed the *Malolo I*. The name is based on the Hawaiian word for 'flying fish'. The system is being developed to enhance efficiency of at-sea surveys for marine debris by utilizing a ship-based UAS to identify marine debris targets

for open-ocean recovery or attachment of satellite-tracked marker buoys. Sea trials are anticipated to occur in 2008.

Tim Veenstra, president of Airborne Technologies Inc., launches the Malolo I on a test flight at Schofield Barracks. Courtesy: NOAA Pacific Islands Fisheries Science Center



NOAA celebrates 200 years —Read the [CRCP Foundations, Visions, and Feature story articles](#).

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Attn: Outreach and Education
NOAA Coral Reef Conservation
Program, N/OCRM
1305 East West Highway, 10th

Phone: (301) 713-3155
Fax: (301) 713-4389
E-mail: coralreef@noaa.gov

We're on the Web!
<http://coralreef.noaa.gov>

*The CRCP sup-
ports effective
management and
sound science to
preserve, sustain
and restore valu-
able coral reef
ecosystems.*



International Updates

Successful Oceanographic Instrumentation Installation in Australia. A [Coral Reef Watch](#) (CRW) scientist participated in a recent research expedition to Heron Island in the southern Great Barrier Reef aboard the [Australian Institute of Marine Science](#) (AIMS) Research Vessel *Lady Basten*. The cruise was the last undertaken by the *Lady Basten* prior to her decommissioning from the AIMS fleet. Various instruments were deployed on and recovered from coral reef faces and mooring lines, with depths in the range 1–280 meters. Data acquired include temperature, salinity, currents and wave parameters. This work is part of the ongoing



The AIMS research vessel, *Lady Basten*, is shown during her final research voyage during which oceanographic instruments were deployed at Heron Island, Australia. Courtesy: R. McAllister © Australian Institute of Marine Science

collaboration between NOAA, AIMS and various other Australian partners to study links between climate change and coral health. The data will be part of analyses to better relate satellite sea surface temperatures (SSTs) to fine scale oceanographic processes on the reefs and

refine the hydrodynamic model being produced for Heron Island. It is also the first set of moored deployments under the recently instigated [Great Barrier Reef Ocean Observing System](#) (GBROOS).

CRW Attends International Forum on Sustainable Development. A [Coral Reef Watch](#) (CRW) scientist attended the “Building Capacity and Cooperation for Sustainable Development of Pacific Coastal Resources Forum,” held in Townsville, Australia from September 3-7. Dr. Heron was invited to present to the Forum on the effects of climate change on coral reefs, and to demonstrate use of the CRW satellite tools that are available globally for coral reef managers. The overall goal of the Forum was to harmonize and develop regional actions for the sustainable development of coral reefs and related ecosystems in the Pacific. Attendees included senior delegates from 14 Pacific island countries, Australian and French coral reef research and governance experts, and funding/support agencies involved in the Pacific. The Forum was hosted by the Australian Government’s [Department of the Environment and Water Resources](#) (DEW) and the French Government’s [Coral Reef Initiative for the South Pacific](#) (CRISP) in partnership with Australia’s [James Cook University](#) (JCU).

New Products in CoRIS

Product Name	Description
Coral Reef Ecosystem Division (CRED), NOAA Pacific Island Fisheries Science Center Subsurface Temperature Recorder Time Series MHI 2005-2006 Link to sample metadata for this product	Data from CRED Subsurface Temperature Recorder (STR) provides a time series of water temperature at reef sites. Data is typically collected at 1200 second or 1800 second intervals using a SBE Model 39 from Seabird Electronics Inc. Data from prior to the deployment date/time and after the recovery date/time have been removed.
Coral Reef Ecosystem Division (CRED), NOAA Pacific Island Fisheries Science Center Wave Tide Recorder Time Series MHI 2005-2006 Link to sample metadata for this product	Data from CRED Wave and Tide Recorders (WTR) provide a time series of temperature, wave, and tide data at coral reef ecosystem sites. Data is typically collected using a SBE Model 26 or 26plus from Seabird Electronics, Inc. Sensors include: Real-time clock, thermistor, and Digiquartz temperature-compensated pressure sensor.